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EXAMINER

KIM, DAVID S

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2633

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8

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/600,037

Applicant(s)

OREN, YAIR

Examiner

David S. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 and 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The foreign language references received on 8 November 2002 (Paper No. 5) and on 13 January 2003 (Paper No. 6) have been considered as best understood.

### ***Drawings***

2. The drawings are objected to because Figs. 1-13 lack distinguishing labels or characteristic shapes that clearly indicate the content of the Figures. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "network 20." A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "64" and "290." A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
5. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

### ***Specification***

6. The disclosure is objected to because of the following informalities:

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On page 7, line 23, it seems that “demultiplexers and multiplexers” is used where “multiplexers and demultiplexers” may be intended.

On page 11, line 24, it seems that “42” is used where “44” may be intended.

On page 11, line 28, it seems that “34” is used there “44” may be intended.

Appropriate correction is required.

### ***Claim Objections***

7. Claims 12, 15, and 17 are objected to because of the following informalities:

It seems that “mulitplexer” is used where “multiplexer” may be intended.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1-2, 4-7, 11, and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamel et al. (U.S. Patent No. 5,93,148) in view of Armitage et al. (“Design of a Survivable WDM Photonic Network”) and Sharma et al. (U.S. Patent No. 5,717,795).

**Regarding claim 1**, Hamel et al. discloses:

A system (Hamel et al., Figs. 3 and 8) for communicating between a plurality of nodes (Hamel et al., nodes 24, 26, 28, and 30 in Fig. 3) coupled to an optical wavelength division multiplexed ring network (Hamel et al., Fig. 3) comprising:

a first terminal node (Hamel et al., node 24 in Fig. 3) having a communication subsystem (Hamel et al., OADM 24a in Fig. 3) configured to be coupled to the ring network to receive and to transmit signals at a first wavelength (Hamel et al., wavelength  $\lambda_1$  in Fig. 3) and to permit

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signals at other wavelengths to pass, a tributary subsystem (Hamel et al., local user area 58 in Fig. 3), and a multiplexing subsystem (Hamel et al., installation 50 in Fig. 3) coupled to the tributary subsystem and to the communication subsystem;

a second terminal node (Hamel et al., node 26 in Fig. 3) having a communication subsystem (Hamel et al., OADM 26a in Fig. 3) configured to be coupled to the ring network to receive and to transmit signals at a second wavelength (Hamel et al., wavelength  $\lambda_2$  in Fig. 3) and to permit signals at other wavelengths to pass, a tributary subsystem (Hamel et al., local user area 60 in Fig. 3), and a multiplexing subsystem (Hamel et al., installation 52 in Fig. 3) coupled to the tributary subsystem and to the communication subsystem; and

a head-end node (Hamel et al., network head T in Fig. 8) coupled to the ring network to receive and to transmit signals at both the first and second wavelengths, the head-end node having a demultiplexer (Hamel et al., demultiplexers DM1 and DM2 in Fig. 8) to isolate signals received at the first and second wavelengths, a module (Hamel et al., processing means G in Fig. 8) to determine an output wavelength at which to transmit received signals, and a multiplexer (Hamel et al., optical coupler CO in Fig. 8) to combine the received signals for transmission on the ring network at the first and second wavelengths.

Hamel et al. does not expressly disclose:

said tributary subsystems configured to be coupled to pluralities of devices to enable the devices to communicate over the ring network;

said multiplexing subsystems to channel signals between the pluralities of devices and the ring network;

said module comprising an integral cross-connect module, and said determining based on address information included in the received signals.

However, it is well known and conventional in the art that the tributary subsystem of Hamel et al. would be configured to be coupled to pluralities of devices to enable the devices to

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communicate over the ring network. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to configure the tributary subsystem of Hamel et al. in such a way. One of ordinary skill in the art would have been motivated to do this since doing so would avoid the need to implement a separate tributary subsystem for each device to communicate with the network, thus reducing network and component costs and complexity. Configured as such, the system of Hamel et al. would then accordingly comprise multiplexing subsystems to channel signals between the pluralities of devices and the ring network.

Additionally, Armitage et al. discloses an integral cross-connect module (Armitage et al., page 244, col. 2, 1<sup>st</sup> paragraph). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement the cross-connect module of Armitage et al. as the module of the system of Sharma et al. One of ordinary skill in the art would have been motivated to do this since it provides an exemplary means to provide the capability of "routing any incoming wavelength channel on any of the incoming fibres to any wavelength channel on any of the outgoing fibres" (Armitage et al., page 244, col. 2, 1<sup>st</sup> paragraph).

Moreover, Sharma et al. discloses an integral cross-connect module (Sharma et al., switch 313 in Fig. 3) and said determining based on address information included in the received signals (Sharma et al., col. 2, lines 10-11). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize the determining teaching of Sharma et al. in the system of Hamel et al. in view of Armitage. One of ordinary skill in the art would have been motivated to do this "to transmit an optical signal from any one of the terminal nodes to any other terminal node" (Sharma et al., col. 2, lines 16-18).

**Regarding claim 2,** Hamel et al. in view of Armitage et al. and Sharma et al. discloses:

The system of claim 1, wherein the first and second communication subsystems include an optical add/drop multiplexer (Hamel et al., OADM 24a and 26a in Fig. 3) coupled to the ring network.

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**Regarding claim 4,** Hamel et al. in view of Armitage et al. and Sharma et al. discloses:

The system of claim 1, wherein the terminal nodes and head-end node receive and transmit signals using a synchronous optical network communication standard (Hamel et al., col. 5, lines 23-26).

**Regarding claim 5,** Hamel et al. in view of Armitage et al. and Sharma et al. discloses:

The system of claim 1, wherein the head-end node receives and transmits signals using a synchronous optical network communication standard (Hamel et al., col. 1, lines 6-12), a subset of the signals further use a communication protocol (Armitage et al., page 244, col. 2) framed by the communication standard (Hamel et al., col. 1, lines 25-30, 60), the head-end node includes at least one protocol subsystem (Hamel et al., processing means G in Fig. 8) to determine address (Sharma et al., col. 2, lines 10-11) information for the communication protocol, and the head-end node is configured to send signals using the communication protocol to the at least one protocol subsystem (Hamel et al., col. 10, lines 53-54).

**Regarding claim 6,** Hamel et al. in view of Armitage et al. and Sharma et al. discloses:

The system of claim 5, wherein the communication standard is one of SONET and SDH (Hamel et al., col. 1, lines 6-12), and the communication protocol is IP (Armitage et al., page 244, col. 2).

**Regarding claim 7** Hamel et al. in view of Armitage et al. and Sharma et al. discloses:

The system of claim 5, wherein the communication standard is one of SONET and SDH (Hamel et al., col. 1, lines 6-12) and the communication protocol is ATM (Armitage et al., page 244, col. 2).

**Regarding claim 11,** Hamel et al. in view of Armitage et al. and Sharma et al. discloses:

The system of claim 1, wherein the head-end node includes first and second transmitters (Hamel et al., lasers LT1 and LT2 in Fig. 8) coupled to the multiplexer to send signals at the first and second wavelengths (Hamel et al., col. 8, lines 4-7), respectively, and first and second

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receivers (Hamel et al., col. 8, lines 21-25) coupled to the demultiplexer to receive signals at the first and second wavelengths, respectively.

**Regarding claim 22**, claim 22 is a method claim that corresponds largely to a coherent combination of the limitations in system claims 1 and 5. Since all these claims are rejected under Hamel et al. in view of Armitage et al. and Sharma et al. all the limitations of system claim 22 are found in Hamel et al. in view of Armitage et al. and Sharma et al. Additionally, Hamel et al. in view of Armitage et al. and Sharma et al. coherently teaches the limitations in claims 1 and 5. That is, the limitations in claims 1 and 5 are not divergently taught under Hamel et al. in view of Armitage et al. and Sharma et al. Therefore, the recited means in the coherent combination of the limitations in claims 1 and 5 read on the corresponding steps in method claim 22.

Claim 22 also includes limitations absent from claims 1 and 5. Hamel et al. in view of Armitage et al. and Sharma et al. also discloses these limitations:

determining destination address information (Sharma et al., col. 2, lines 10-11); and retransmitting signals received at the head-end node at one of the first and second wavelengths based on the destination address information (Sharma et al., col. 2, lines 10-11).

10. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamel et al. in view of Armitage et al. and Sharma et al. as applied to claim 1 above, and further in view of Jahromi (U.S. Patent No. 5,416,768).

**Regarding claim 3**, Hamel et al. in view of Armitage et al. and Sharma et al. discloses all the limitations of claim 3 except:

wherein the head-end node includes a tributary subsystem configured to be coupled to a plurality of devices to enable the devices to communicate over the ring network.

However, Jahromi discloses such a tributary subsystem (Jahromi, 8xSTM-1 Tributary Units and STM-1 TRIB in Fig. 13). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement such a tributary subsystem in the



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head-end node of Hamel et al. in view of Armitage et al. and Sharma et al. One of ordinary skill in the art would have been motivated to do this so that the head-end node of Hamel et al. in view of Armitage et al. and Sharma et al. could be “a gateway node for local, regional and national network traffic” (Jahromi, col. 10, lines 33-46).

11. **Claim 8, 17-19, and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamel et al. in view of Armitage et al. and Sharma et al. as applied to claim 5 above, and further in view of Dumortier (“Toward a new IP over ATM routing paradigm”).

**Regarding claim 8**, Hamel et al. in view of Armitage et al. and Sharma et al. discloses all the limitations of claim 8 except:

wherein the communication protocol is IP encapsulated within ATM.

However, Dumortier discloses such a protocol (Dumortier, page 82, col. 2, 3<sup>rd</sup> and 4<sup>th</sup> paragraphs, page 84, col. 2, last paragraph). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use such a protocol in the system of Hamel et al. in view of Armitage et al. and Sharma et al. One of ordinary skill in the art would have been motivated to do this to enable “a number of advantages, like higher throughput, shorter end-to-end delay, reduced router load, better utilization of L2 QoS capabilities, and route optimization” (Dumortier, page 82, 4<sup>th</sup> paragraph).

**Regarding claims 17-19 and 21**, claims 17-19 and 21 are system claims that correspond largely to coherent combinations of the limitations in system claims 1 and 5-8. Since all these claims are rejected under Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Dumortier, all the limitations of system claims 17-19 and 21 are found in Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Dumortier. Additionally, Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Dumortier, coherently teaches the limitations in claims 1 and 5-8. That is, the limitations in claims 1 and 5-8 are not divergently taught under Hamel et al. in view of Armitage et al. and

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Sharma et al., further in view of Dumortier. Therefore, the recited means in the coherent combination of the limitations in claims 1 and 5-8 read on the corresponding means in system claims 17-19 and 21.

Claims 17-19 and 21 also include limitations absent from claims 1 and 5-8. Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Dumortier, also discloses these limitation:

at least some of the nodes (Hamel et al., nodes 24, 26, 28, and 30 in Fig. 3) sending and receiving signals using at least one secondary communication protocol (Armitage et al., page 244, col. 2);

at least one protocol subsystem coupled (Armitage et al., page 244, col. 2) to the cross-connect module;

the at least one secondary communication protocol includes ATM (Dumortier, page 83, col. 2, 2<sup>nd</sup> paragraph), and further includes IP encapsulated within ATM (Dumortier, page 82, col. 2, 3<sup>rd</sup> and 4<sup>th</sup> paragraphs, page 84, col. 2, last paragraph).

12. **Claims 9-10 and 17-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamel et al. in view of Armitage et al. and Sharma et al. as applied to claim 1 above, and further in view of Lea (U.S. Patent No. 6,115,373).

**Regarding claim 9**, Hamel et al. in view of Armitage et al. and Sharma et al. discloses all the limitations of claim 9 except:

a second subset (Lea, Fig. 2) of the signals further use a second communication protocol (Lea, ATM or IP in Fig. 1), the head-end node includes a second protocol subsystem (Lea, ATM controller 4 or IP controller 5 in Fig. 1) for the second communication protocol, and the head-end node is configured to send signals using the second communication protocol to the second protocol subsystem (Lea, col. 3, lines 37-45).

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However, Lea teaches the second set of protocol-related limitations, as indicated above. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate this second set of protocol-related teachings of Lea in the system of Hamel et al. in view of Armitage et al. and Sharma et al. One of ordinary skill in the art would have been motivated to do this "to provide a network architecture that integrates IP and ATM into a single architecture keeping the best features of both" (Lea, col. 2, lines 10-12).

**Regarding claim 10**, Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Lea, discloses:

The system of claim 9, wherein the first communication standard is one of SONET and SDH (Hamel et al., col. 1, lines 6-12), the first communication protocol is IP (Armitage et al., page 244, col. 2), and the second communication protocol is ATM (Lea, Fig. 1).

**Regarding claims 17-20**, claims 17-20 are system claims that correspond largely to coherent combinations of the limitations in system claims 1 and 9-10. Since all these claims are rejected under Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Lea, all the limitations of system claims 17-20 are found in Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Lea. Additionally, Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Lea, coherently teaches the limitations in claims 1 and 9-10. That is, the limitations in claims 1 and 9-10 are not divergently taught under Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Lea. Therefore, the recited means in the coherent combinations of the limitations in claims 1 and 9-10 read on the corresponding means in system claims 17-20.

Claims 17-20 also include limitations absent from claims 1 and 9-10. Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Lea, also discloses these limitations:

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at least some of the nodes (Hamel et al., nodes 24, 26, 28, and 30 in Fig. 3) sending and receiving signals using at least one secondary communication protocol (Armitage et al., page 244, col. 2); and

at least one protocol subsystem coupled (Armitage et al., page 244, col. 2) to the cross-connect module.

13. **Claim 12 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamel et al. in view of Armitage et al. and Sharma et al. as applied to claim 1 above, and further in view of Elrefaie ("Multiwavelength Survivable Ring Network Architecture").

**Regarding claim 12**, Hamel et al. in view of Armitage et al. and Sharma et al. discloses:

The system of claim 1, wherein the ring network includes a first ring (Hamel et al., clockwise ring in Fig. 8) for transmitting information in a clockwise direction and a second ring (Hamel et al., counter-clockwise ring in Fig. 8) for transmitting information in a counter-clockwise direction, the first communication subsystem comprises a pair of transceivers (Hamel et al., laser L1 and opto-electrical converter OE1 and laser L1a and opto-electrical converter OE1a in Fig. 8) coupled to the first and second rings, respectively, the second communication subsystem (Hamel et al., not shown in node N2 in Fig. 8) comprises a pair of transceivers coupled to the first and second rings, respectively, and the demultiplexer comprises a pair of demultiplexers (Hamel et al., demultiplexers DM1 and DM2 in Fig. 8) coupled to the first and second rings, respectively.

Hamel et al. in view of Armitage et al. and Sharma et al. does not expressly disclose: said multiplexer comprising a pair of multiplexers coupled to the first and second rings, respectively.

However, Elrefaie does disclose such a pair of multiplexers (Elrefaie, Fig. 8). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to

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implement the multiplexer of Hamel et al. in view of Armitage et al. and Sharma et al. with a pair of multiplexers coupled to the first and second rings, as taught in Elrefaie. One of ordinary skill in the art would have been motivated to do this to provide a protection set of optical equipment (Elrefaie, Fig. 8).

**Regarding claim 13**, Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Elrefaie, discloses:

The system of claim 12, wherein the first communication subsystem further includes a selector (Elrefaie, page 1246, col. 2, 2<sup>nd</sup> paragraph) that compares a pair of signals received by the pair of transceivers and selects a signal from the pair of signals based on a quality parameter of each signal.

14. **Claim 14-16** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Elrefaie, as applied to claim 12 above, and still further in view of Wu et al. ("Feasibility Study of A High-Speed SONET Self-Healing Ring Architecture in Future Interoffice Fiber Networks").

**Regarding claim 14**, Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Elrefaie, discloses all the limitations of claim 14 except:

wherein the head-end node further includes a selector that compares a pair of signals received by the pair of demultiplexers and selects a signal from the pair of signals based on a quality parameter of each signal.

However, Wu et al. does disclose such a selector (Wu et al., 1:2 selector/generator in Fig. 4). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include a selector of Wu et al. in the system of Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Elrefaie. One of ordinary skill in the art would have been motivated to do this to accept signals from a properly working ring in the case that network components fail (Wu et al., page 917, col. 2, last paragraph).

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**Regarding claim 15-16**, claims 15-16 are system claims that correspond to coherent combinations of the limitations in system claims 1 and 12-14. Since all these claims are rejected under Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Elrefaie, still further in view of Wu et al., all the limitations of system claim 15-16 are found in Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Elrefaie, still further in view of Wu et al. Additionally, Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Elrefaie, still further in view of Wu et al. coherently teaches the limitations in claims 1 and 12-14. That is, the limitations in claims 1 and 12-14 are not divergently taught under Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Elrefaie, still further in view of Wu et al. Therefore, the recited means in the coherent combinations of the limitations in claims 1 and 12-14 read on the corresponding means in system claims 15-16.

Claim 16 also includes a limitation absent from claims 1 and 12-14. Hamel et al. in view of Armitage et al. and Sharma et al., further in view of Elrefaie, also discloses this limitation:

a second terminal node having a second selector (Elrefaie, page 1246, col. 2, 2<sup>nd</sup> paragraph) to select a signal from the pair of signals received by the second pair of transceivers based on a quality parameter of each signal.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Blair et al. is cited to show a related system that implements a logical star network on a physical ring topology.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 703-305-6457. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703-305-4729. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

DSK  
April 3, 2003



JASON CHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600